Exploring the Value of Service Learning: Students' assessments of Personal, Procedural and Content Learning*

Explorando el valor del Aprendizaje Servicio: evaluación por estudiantes del aprendizaje personal, procedimental y de contenido

David García-Romero
Universidad Autónoma de Barcelona
david.garcia.romero@uab.cat

José Luis Lalueza
Universidad Autónoma de Barcelona
joseluis.lalueza@uab.cat

Sònia Sànchez-Busqués
Universidad Autónoma de Barcelona
sonia.sanchez@uab.cat

Resumen: La investigación en Aprendizaje Servicio (ApS) ha estudiado el valor de esta pedagogía para para construir el aprendizaje de los estudiantes y fomentar el compromiso con los problemas sociales. La mayoría de las investigaciones se centran en los resultados positivos del ApS, sin comparar con otras prácticas. Nuestro objetivo es contribuir a esta investigación desde un punto de vista crítico mediante la realización de un estudio comparativo entre ApS y otros modelos de prácticas. Utilizando la escala "Course Value Inventory" comparamos las respuestas de 174 estudiantes de Grado de Psicología, considerando su participación en prácticas de ApS y no-ApS. Analizamos las diferencias entre las respuestas de los estudiantes de los dos modelos de prácticas desde la perspectiva de las dimensiones del aprendizaje auténtico, comparando por separado las tres dimensiones de este constructo: aprendizaje personal, procedimental y de contenido para identificar o descartar el valor añadido del ApS. Los resultados se discuten en relación a estudios previos desde la perspectiva histórico-cultural para dar sentido a las diferencias encontradas y proponer futuras líneas de investigación.

Palabras clave: Educación Superior, Aprendizaje Servicio, Perspectiva Histórico-Cultural, Estudio Comparativo, Metodología de Enseñanza.

* Este artículo se enmarca en el proyecto I+D+i EDU2014-55354-R, titulado Formación universitaria: análisis del proceso de aprendizaje y cambio identitario a través del aprendizaje-servicio en comunidades de prácticas en contextos de exclusión, financiado por la Secretaría de Estado de investigación, Desarrollo e Innovación, durante los años 2015-2018.

DOI: 10.15581/004.34.557-577

Abstract: Research into Service Learning (S-L) has investigated the value of this pedagogy to construct student learning and foster commitment to social issues. Most research focuses on the positives outcomes of S-L, without considering comparison with other practices. We aim to contribute to this research from a critical point of view by performing a comparative analysis between S-L and other models of practice. Using the Course Value Inventory scale, we compare the assessment of 174 students taking a Bachelor's degree in Psychology, considering their participation in S-L or non-S-L practice. We intent to test if there are differences in the students' assessment between the two models of practice in what concerns to authentic learning. We compare separately the three dimensions of this construct: personal learning, procedural learning and content learning to find or discard the value of S-L in this matter. The results are discussed in relation with previous studies from a cultural-historical approach in order to make sense of the found differences and propose further research.

Keywords: Higher Education, Service Learning, Cultural-historical Approach, Comparative Study, Teaching methodology.

Introduction and literature review

The programme developed by the United Nations (2013) for the sustainability of higher education regards the university as an "agent of change, a catalyst of social and political action" (p. 4). Furthermore, as societies become increasingly more multicultural, university curricula should ensure that new graduates are equipped with enhanced cultural awareness and competency attributes (Gribble, Dender, Lawrence, Manning and Falkmer, 2014). These demands are reflected in the community commitment programmes at universities, which are designed for students to learn in contact with society (Bringle and Hatcher, 1995; Puig, Gijón, Marín and Rubio, 2011) One of the strategies of these programmes is Service Learning (hereinafter S-L), a pedagogy that aims to prepare professionals to learn both direct vocational skills and lessons related to civic values and social commitment (Campus Compact, 2014). It combines curricular learning with community service, applying the contents of academic disciplines to practice (Bringle and Hatcher, 1995; Eyler and Giles, 1999; Myers-Lipton,1996). S-L seeks to generate curricular learning that is sensitive to the social reality (Lalueza, Sànchez-Busqués and Padrós, 2016; Wilson, Bradbury and McGlasson 2015; Puig et al., 2011) and gives rise to responsible professionals, committed to their jobs, their fellow citizens and social change (Aramburuzabala, 2015; Winterbottom, Lake, Ethridge, Kelly and Stubblefield, 2015). So, S-L is a conglomerate of educational practices in which community work and formal education converge with the goals of enhancing the potential of the curriculum while also working with the community and committing to social change (Blázquez Muñoz and Martínez-Lozano, 2012; Power and Bennet, 2015; Padrós, Sánchez-Busqués, Lalueza, Crespo and Lamas, 2014).

Numerous studies have shown the positive effects of this instructional methodology on university students. Some studies draw on experiential learning (Dewey, 1936; Kolb, 1984), focusing their work on how the combination of classes and community work encourages learning to occur in continuous circles of the application of concepts to practice, critical thinking and learning through experience and reflection (Gerstenblatt, 2014; Naudé, 2015). Other studies identify improvements in attitudes related to social responsibility, either focusing on individual characteristics (Richards and Levesque-Bristol, 2016; Blankson, Rochester and Watkins, 2015; Taylor, Jones, Massey, Mickey, Reynolds and Jackson, 2017) or binding it to the importance of involvement with others and reciprocal relationships in community work (McMillan, 2011; Yep, 2014; Haddix, 2015). These works draw on the possibilities of S-L to foster transformative learning as a holistic change in students (Kiely, 2005; Naudé, 2015). Some studies following this trend have analysed the effect of student characteristics, such as the one by Taylor et al. (2017) that tested the mediation of developmental readiness transformation in S-L experiences or the study by Richards and Levesque-Bristol (2016), which describes the importance of self-regulated motivation and self-efficacy in civic learning. Other studies focus on the effects that the pedagogical practice has on the students (Kilgo, 2015) or student's satisfaction (Folgueiras Bertomeu, Luna González and Puig, 2013).

There is also controversy in the field. Deeley (2016) notes that most of the research into S-L has focused on its positive effects, and mentions the need for critical research into the S-L methodology. Comparative studies as those performed by Strage (2004) and Mpofu (2007) focused on course content, measuring the results of multiple choice tests (Mpofu, 2007) and the results of courses and subsequent course tests (Strage, 2004). Both leave aside other objectives of S-L such as social commitment, personal learning and the learning of professional skills.

Considering the aforesaid, and in agreement with Deeley (2016), we believe that a good input to the S-L literature would be a comparative study to search for differences in several dimensions of learning between S-L and Non-S-L pedagogy on the same university courses. We share a holistic view of learning (Macías, Martínez-Lozano and Vásquez, 2014; Taylor, 2014) and consider that all dimensions should be taken into account when analysing students' assessments of the course. Our work aims to trace those differences, for which purpose we must establish a concrete theoretical approach to the process of learning by an S-L methodology, to know what dimensions and learning we are talking about.

Theoretical framework

We understand that in an S-L activity, students get involved in a Community of Practice (Wenger, 1998), understood to mean a group of people that undertake practices to pursue common objectives. From a cultural-historical perspective, learning and service in S-L are not considered two different things that need to come together, but two dimensions of the same process (Taylor, 2014; McMillan, Goodman and Schmid, 2016). S-L is understood to be situated in an authentic activity (Meijers and Wardekker, 2003; Simons, 2000; Wenger, 1998) where students develop *real or authentic learning* (Marco-Macarro, Martínez-Lozano and Macías Gómez-Estern, 2016; Macías et al., 2014).

S-L is also viewed as a *boundary practice* (McMillan, 2011; McMillan et al., 2016) because these practices construct an activity system on the boundaries between two Communities of Practice where the students are working: the university and the community. Participation in these spaces brings contradictions and tensions, yet it also generates new forms of meaning, which scaffold the learning beyond the cognitive and conceptual (Engeström, 2001). In this boundary experience (McMillan, 2011), students are foreigners, they perform practice towards their own objectives, but together with others that have other goals, which start to be negotiated in joint practice. To become competent members of the community they serve, students must share the objectives and the meanings of the practice, as well as gain competence in the practice that is performed to pursue common objectives. This entails an *authentic learning* process (Simons, 2000; Meijers and Wardekker, 2003; Van Oers, 2007; Sutherland and Markauskaite, 2012).

Authentic learning is a situated learning process that takes place in a scenario of a specific activity that becomes personally meaningful when it is assimilated within the life story of the learner itself (Polkinghorne, 1988). It entails the transformation of the person as a whole and is related to acquiring a new way of looking at the world and therefore, as Simons (2000) noted, a new way of looking at oneself.

This experience brings about transformations in the process of *identity construction* (Wilson, Bradbury and McGlasson, 2015), where one's position in the world is transformed both personally and with regard to the social context (Wortham, 2006). Mitton-Kükner, Nelson and Desrochers (2010) state that S-L can bring about changes in the identities of the students who participate in the projects, showing how S-L experiences influence their identities since they have to position themselves in situations of *otherness*. These experiences of *otherness* promote reflections on the self, generating its transformation (Knapp, Fisher and Levesque-Bristol, 2010). This experience of otherness is related to the boundary experience. In their participation in

the Community of Practice, students need to move from otherness to identification with the group, which entails constructing new meanings together with other participants in the community and mastering the practices inside it (McMillan, 2011).

As stated earlier, learning and knowledge are not concepts that need to be attached to the practice, but are concepts that stem from it (Taylor, 2014). In this regard, curricular conceptual knowledge is also a tool for students to develop their learning and identity in the boundary experience, in their transition to more core participation in the Community of Practice. *Authentic learning*, as holistic learning that happens in practice, hence entails three dimensions of learning: personal learning, procedural learning and conceptual learning (Macías et al., 2014).

In order to contribute to critical research into S-L, we consider it mandatory to test the processes of *authentic learning* in S-L, to avoid an over-optimistic perspective and focus on the detailed and concrete implications. Even though we believe that this inquiry requires qualitative study to view the concretions of the subjective process, we also consider that students' assessments of the different dimensions of authentic learning, if a comparison is made between S-L and other pedagogies, can give us clues about the reality of the implications of S-L and promote a critical view of it.

Materials and method

Context of study

The study context corresponds to an S-L project being conducted by the authors of the present study and the courses and population corresponding to it. It was performed with the Bachelor's degree in Psychology at the (**reference to university-not included for blinded version*), in classes in the field of Developmental and Educational Psychology. All these courses have two ways of organising practices, which students opt for on a voluntary basis: classroom seminar practice (which differs for each class and consists of seminars based on observations) and field practices, which entail those participating in the *(*name of the project not included for blinded version)* S-L project.

Description of classroom seminars (hereinafter, Class)

Developmental psychology: Natural observations of educational processes with children, followed by weekly discussion seminars at university and a final analytical dissertation. Conducted in collaborative groups of 4-5 students from the same class.

Cultural Psychology: Students produce an autoethnography through their contexts of participation. Six small seminars for tutorial.

Social and Community Intervention: Collaborative production of an intervention project in groups of 4-5 students. Weekly seminars for group work and tutorial.

Description of field practice, *(*name of the project not included for blinded version)* Project (hereinafter, S-L)

Students participate every week in an S-L project consisting of educational activities with primary schoolchildren at risk of social exclusion. These activities entail collaboratively solving formal tasks in a fun way, including the use of ICT tools.

In the "*(*name of the project not included for blinded version)*"[1] S-L project, these field practices are supported by debriefing meetings every week after the activity concludes at the same centre of activity, three reflection seminars per semester at the university and a final dissertation (for more details on the process, see (**Self-references not included for blinded version*)).

Participants and Data Collection

The sampling was intentional and non-probabilistic. The study was performed on the Bachelor's degree in Psychology at the (**University*). We did not collect concrete data on the participants regarding gender, age, race, ethnicity or class rank, since the data was collected anonymously and we did not consider these characteristics to be relevant. Neither is there any precise data on the characteristics of the general population of the Faculty of Psychology at the *(*University)*, but we can assert that the vast majority of the population is between 18-25 years old, born in *(*not included for blinded version)* and middle and working class. Furthermore, more than two thirds of the students are female. Data was collected from 174 students in a class context after a lesson in natural groups, in pencil and paper format with standard instructions and a writing time of ten minutes.

Independent Measures

We considered three different nominal two-degree variables from the data collect-

1 The name of the *(*project not included for blinded version)* comes from the Roma language, since the programme works with the Romany population. Further information at *(*webpage not included for blind version*").

ed from the students between four natural groups to perform comparative analysis distributed into them.

We will refer to the *model of practice* in which they participated as independent variable 1 (IV-1): Of the total number of students, 106 participated in the CLASS model or practice (60.9%) and 68 (39.1%) in the *(*name of project*) S-L project. The second independent variable (IV-2) that we are taking into consideration is the academic year when they attended the courses on campus: 118 (67.8%) attended the courses in the 2014-2015 academic year (A) and 56 (32.8%) in the 2015-2016 academic year (B). The last independent variable (IV-3) considered in the study is the year of the degree when they attended the courses on campus: we find that 22 (11.5%) participated in their fourth year and 92 (88.5%) in their first year. The variables were distributed across the groups as shown hereinafter. As will be commented in analysis, the distribution of group sizes was controlled. Independent Variables are distributed among groups as indicated in Table 1.

Table 1: Distribution of participants and measures across groups

GROUP NUMBER	N	IV-1 MODEL OF PRACTICE	IV-2 ACADEMIC YEAR	IV-3 YEAR IN THE DEGREE	NAME
1	12	SL	14-15	1-A	SL14-151A
2	34	SL	15-16	1-A	SL15-16A
3	22	SL	15-16	4-B	SL15-16B
4	106	CLASS	14-15	1-A	CLASS14-15A

Instrument and dependent measures

The instrument used in the survey was the "Course Value Inventory" (CVI) validated by Nehari and Bender (1978), which consists of a series of items on the students' experience of the course in terms of learning and satisfaction. Participant students respond to a likert-type scale ranging from 1 (*strongly agree)* to 4 (*strongly disagree)* Thus, a higher score indicates less agreement. Some of the items are phrased negatively, so in the analysis these scores must be inverted to make them coherent with most items. The test is divided into four sub-scales, some of which we understand to be indicators of different dimensions of authentic learning.

Assessment of the course subscale (DV-1): The items are statements related to satisfaction with the course. Examples of the questions are "this course was a very valuable learning experience" and "R-This course was not inspiring". We consider

the mean scores on this scale in terms of satisfaction of students with the course, linked to the affective dimension.

Content learning subscale (DV-2): This scale contains statements that are related to the understanding of the contents of the course. Examples of the scale are "the course helped me to acquire important basic knowledge" and "R-My understanding of the course material did not improve much". We relate the responses on this scale with the importance of the course in the respondents' trajectories as learners in the specific discipline through which they accessed the practices and so take the mean scores on this scale as an indicator of conceptual learning.

Personal learning subscale (CV-3): The items on this scale inquire into knowledge of oneself and the way the respondent interacts with the world. Examples of the scale are "This experience helped me to be more aware of my feelings and reactions" and "R-This course did not impact me in terms of understanding what I am or what I want". We believe that the responses in this subscale are related to the importance of the course for students in terms of their identity construction, and so we take mean scores as indicators of identity change.

Behavioural learning subscale (DV-4): This is made up of items that provide information on procedural learning as a result of experiences on the course. Examples of the subscale are "On this course I have accepted more responsibility for learning than I usually do" and "This course has no impact on me in terms of how I communicate". We relate the responses on this sub-scale with the students' perception of the course as an important experience in their development as professionals in terms of practical learning and so we consider the mean scores to be indicators of skills learning.

Data analysis

Preanalysis, distribution analysis: Considering the small number in some groups, we assured a similar distribution of responses among them to continue with analysis. As shown in Figure 1, neither ceiling nor floor effects occurred, and 50% of the sample was of similar breadth, as shown in the plot graph and histogram presented in the results.

Mean scores and ANOVA: The data was transferred to a spreadsheet to be analysed using SPSS software. The mean of each subject's responses on each sub-scale was calculated to obtain overall scores of between 1 and 4. Given that in the original test a higher score entails a lower rating of the course, we calculated the points inversely after calculating the means, so that 1 means a poorer evaluation of the course on the sub-scale and 4 means a better evaluation and comparison. The mean

of the total scale was obtained in the same way to check the distribution of the different groups along the scale.

Using the scores on the sub-scales, we compared means and performed an ANOVA to calculate whether there were significant differences within the subscales. This would show us whether each of the subscales was scored differently among all the groups.

Multiple comparisons: Our principal interest in this study is to establish comparisons between the different groups in pairs of two on the different subscales. To do so, we performed a post-hoc Tukey's range test to analyse in greater detail where these differences took place. To prevent the risk of an inflated Type 1 error for multiple comparisons we conducted Bonferroni correction. The four groups were compared on each of the subscales separately, so p was calculated in relation to the comparison of the four groups on each scale.

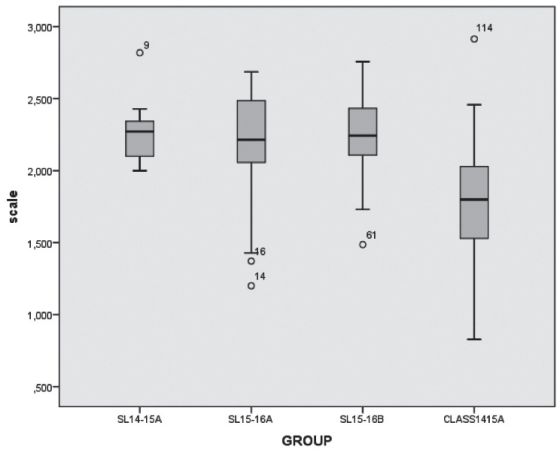
Hypothesis: According to what has been exposed in the theoretical framework, we expect S-L to have a different and positive impact on the dimensions of real learning that we are measuring. That entails the variable "model of practice" (IV-1) showing significant differences between the S-L model and the CLASS model in all dimensions of learning, for all the DVs. These differences should also be greater than those shown for the variables "academic year" (IV-2) and "year on the degree".

Given that the groups are natural and their numbers are different, it is impossible to agglomerate the groups by variables because those with a larger number, such as CLASS1415A, would weigh more heavily. Thus, the comparisons must be performed across the board. As we can see, to accept our hypothesis, the group that should be different from the others is CLASS1415A, since it is the only group that engaged in a different model of practice, and there should be no differences, or smaller differences, between the other three groups, which are only divided by academic year and year of the degree.

Results

First, we present a plot graph (see Figure 1) as a sample of the similarity of the distributions in all groups, where we can graphically see some differences between groups 1, 2 and 3, on the one hand, and group 4 on the other (on the right of the graph). Specifically, group 4 shows lower means throughout the scale than the other three groups.

Figure 1.



Mean scores on the subscales between groups: Although in this case we are less interested in the responses and more interested in their distribution, we compared the mean scores to superficially analyse differences. Table 2 presents these mean scores of the groups on the different subscales of the instrument.

Table 2. Average mean scores for groups on the subscales

		SCALE	ASSESSMENT	CONTENTS	PERSONAL	BEHAVIOURAL
		MEAN	MEAN	MEAN	MEAN	MEAN
GROUP	SL14-15A	2.262	2.656	2.115	2.000	2.336
	SL15-16A	2.180	2.495	1.913	2.165	2.136
	SL15-16B	2.226	2.534	2.119	2.091	2.211
	CLASS1415A	1.757	1.972	1.923	1.433	1.715

In the comparison of mean scores shown in table 2, we can once again see this different effect in the general scale, where we find that the CLASS group has a mean (CLASS1415A M=1.757) that is considerably lower (0.423 out of a total of 4) than the following group (SL15-16A M=2.180), while this SL15-16A only stands out from the one with the highest mean (SL14-15A M=2.262) by a difference of 0.082.

This slightly lower mean for the CLASS group remains in all three sub-scales, and it is highest in the personal learning sub-scale (0.567 lower than the next group), while the lowest difference is in the behavioural learning sub-scale, with

0.421. The differences between the other groups on these scales is at most 0.2 between the groups SL15-16A and SL14-15A on the behavioural learning sub-scale.

However, the same does not hold true on one of the sub-scales. We can see that the contents sub-scale does not seem to show major differences between any of the groups, as the largest of these differences is between the groups SL15-16B (M=2.119) and SL15-16A (M=1.913), a 0.206 difference, while the smallest is between SL14-15A (M=2.115) and SL15-16B (M=2.119), with a difference of 0.004.

These differences could indicate the relevance of the IV-1 "model of practice" on three of the sub-scales but not on the content sub-scale; on this sub-scale the only significant differences appeared between groups SL14-15A and SL15-16B.

Differences within the subscales: Table 3 shows the results of the ANOVA where we examine whether these differences are significant or not. Significance is considered if $p < 0.05$.

As expected from the table of means, we found significant differences on three of the sub-scales: evaluation of the course with F=19.068 and p=0.000; personal learning with F=26.402 and p=0.000; and behavioural learning with F=22.504 and p=0.000. In the case of content learning, the differences are not significant, as we obtained p=0.150, which is much higher than 0.05 with F=1.796.

Table 3. One-factor ANOVA

		SUM OF SQUARES	GL	SQUARE MEAN	F	SIG.
Assessment	Inter-group	13.424	3	4.475	19.068	.000
	Intra-group	39.895	170	.235		
	Total	53.320	173			
Contents	Inter-group	1.063	3	.354	1.796	.150
	Intra-group	33.536	170	.197		
	Total	34.600	173			
Personal	Inter-group	19.382	3	6.461	26.402	.000
	Intra-group	41.601	170	.245		
	Total	60.983	173			
behavioural	Inter-group	9.935	3	3.312	22.504	.000
	Intra-group	25.018	170	.147		
	Total	34.953	173			
Scale	Inter-group	8.545	3	2.848	21.171	.000
	Intra-group	22.871	170	.135		
	Total	31.415	173			

Therefore, for the intragroup total we cannot say that there is a large difference between the means of responses regarding *content learning*, but there is indeed a significant difference for the other dependent variables.

Multiple comparisons: Given that our interest lies in comparing groups, we performed a post-hoc Turkey's range test (shown in table 4) to compare them by pairs so we could specifically see where the significant differences highlighted by the ANOVA were. Bonferroni correction was applied, so it must be noted that significance is not $p < 0.05$ but $p < 0.008$. As shown in the multiple comparison table, there are no significant differences in the dependent variable for the score of content learning, as all the p's are higher than 0.0008, and the smallest of them, 0.239, corresponds to a difference of means of .196 between the groups CLASS1415A and SL15-16B.

Regarding the remaining DVs, we found significant differences in all three between the CLASS1415A and the other three groups, with a p=0.000 in all the comparisons except for the personal learning scale with group SL1415A, which shows p=0.001, which does not appear to be significant. The difference between the means is equal to or higher than 0.523 (with SL15-16B) on the assessment scale, 0.567 (with SL14-15A) on the personal learning scale, and 0.421 (with group SL15-16A) on behavioural learning.

Therefore, the results show that there is no difference in any of the DVs in relation to variables IV-2 (academic year) and IV-3 (year of the degree programme), or in relation to variable DV-2 (content learning) in relation to any of the IV's. However, differences were found in DV-1 (assessment of the course) DV-3 (personal learning) and DV-4 (behavioural learning) in relation to IV-1 (model of practice). This shows that all three groups that did S-L practices have significantly higher scores than the group that did classroom seminars.

Table 4. Multiple comparisons

TUKEY'S HS

DEPENDENT VARIABLE	(I) GROUP	(J) GROUP	DIFFERENCE OF MEANS (I-J)	STANDARD ERROR	SIG.	95% CONFIDENCE INTERVAL	
						LOWER LIMIT	UPPER LIMIT
Assessment	SL14-15A	SL15-16A	.160985	.162661	.756	-.26106	.58303
		SL15-16B	.122159	.173849	.896	-.32891	.57323
		CLASS1415A	.684382*	.147548	.000	.30155	1.06721
	SL15-16A	SL14-15A	-.160985	.162661	.756	-.58303	.26106
		SL15-16B	-.038826	.132550	.991	-.38274	.30509
		CLASS1415A	.523397*	.095479	.000	.27567	.77113

[CONTINÚA PÁGINA SIGUIENTE]

DEPENDENT VARIABLE	(I) GROUP	(J) GROUP	DIFFERENCE OF MEANS (I-J)	STANDARD ERROR	SIG.	95% CONFIDENCE INTERVAL	
						LOWER LIMIT	UPPER LIMIT
Assessment	SL15-16B	SL14-15A	-.122159	.173849	.896	-.57323	.32891
		SL15-16A	.038826	.132550	.991	-.30509	.38274
		CLASS1415A	.562223*	.113495	.000	.26775	.85670
	CLASS1415A	SL14-15A	-.684382*	.147548	.000	-1.06721	-.30155
		SL15-16A	-.523397*	.095479	.000	-.77113	-.27567
		SL15-16B	-.562223*	.113495	.000	-.85670	-.26775
Contents	SL14-15A	SL15-16A	.201760	.149136	.531	-.18519	.58871
		SL15-16B	-.004735	.159394	1.000	-.41830	.40883
		CLASS1415A	.191234	.135279	.493	-.15976	.54223
	SL15-16A	SL14-15A	-.201760	.149136	.531	-.58871	.18519
		SL15-16B	-.206495	.121528	.327	-.52181	.10883
		CLASS1415A	-.010526	.087540	.999	-.23766	.21661
	SL15-16B	SL14-15A	.004735	.159394	1.000	-.40883	.41830
		SL15-16A	.206495	.121528	.327	-.10883	.52181
		CLASS1415A	.195969	.104058	.239	-.07402	.46596
	CLASS1415A	SL14-15A	-.191234	.135279	.493	-.54223	.15976
		SL15-16A	.010526	.087540	.999	-.21661	.23766
		SL15-16B	-.195969	.104058	.239	-.46596	.07402
Personal	SL14-15A	SL15-16A	-.165441	.166102	.752	-.59641	.26553
		SL15-16B	-.090909	.177527	.956	-.55152	.36971
		CLASS1415A	.567330*	.150669	.001	.17640	.95826
	SL15-16A	SL14-15A	.165441	.166102	.752	-.26553	.59641
		SL15-16B	.074532	.135353	.946	-.27666	.42572
		CLASS1415A	.732771*	.097498	.000	.47980	.98574
	SL15-16B	SL14-15A	.090909	.177527	.956	-.36971	.55152
		SL15-16A	-.074532	.135353	.946	-.42572	.27666
		CLASS1415A	.658239*	.115896	.000	.35753	.95894
	CLASS1415A	SL14-15A	-.567330*	.150669	.001	-.95826	-.17640
		SL15-16A	-.732771*	.097498	.000	-.98574	-.47980
		SL15-16B	-.658239*	.115896	.000	-.95894	-.35753

[CONTINÚA PÁGINA SIGUIENTE]

DEPENDENT VARIABLE	(I) GROUP	(J) GROUP	DIFFERENCE OF MEANS (I-J)	STANDARD ERROR	SIG.	95% CONFIDENCE INTERVAL	
						LOWER LIMIT	UPPER LIMIT
Behavioural	SL14-15A	SL15-16A	.200304	.128810	.407	-.13391	.53452
		SL15-16B	.125288	.137670	.800	-.23191	.48249
		CLASS1415A	.621371*	.116842	.000	.31821	.92453
	SL15-16A	SL14-15A	-.200304	.128810	.407	-.53452	.13391
		SL15-16B	-.075016	.104965	.891	-.34736	.19733
		CLASS1415A	.421067*	.075609	.000	.22489	.61724
	SL15-16B	SL14-15A	-.125288	.137670	.800	-.48249	.23191
		SL15-16A	.075016	.104965	.891	-.19733	.34736
		CLASS1415A	.496083*	.089875	.000	.26289	.72928
	CLASS1415A	SL14-15A	-.621371*	.116842	.000	-.92453	-.31821
		SL15-16A	-.421067*	.075609	.000	-.61724	-.22489
		SL15-16B	-.496083*	.089875	.000	-.72928	-.26289

*. The difference in means is significant at the level 0.008.

We accept the null hypothesis with IVs 2 and 3 in relation to all the DVs: the differences are not significant on any of the sub-scales in relation to academic year or year of the degree programme.

We accept the null hypothesis with IV 3 in relation to DV-2: the differences on the sub-scale of content learning are not significant in relation to the type of practice.

We reject the null hypothesis with IV3 in relation to DVs 1, 3 and 4: there are significant differences on the sub-scales in relation to the kind of practices: assessment of the course, personal learning and behavioural learning.

Discussion

Our purpose for this research was to prove differences in the students' assessments of their learning on courses on campus or when they performed S-L or other models of practice, to find evidence of the educational value added of S-L related to *authentic learning* processes. As expected, the variable "model of practice" showed greater differences than "academic year" and "year of the degree programme". In fact, the latter two did not present significant differences on any of the subscales. As for "model of practice", this is relevant with regard to the students' perceptions of what the course has meant for them, which leads us to believe that the nature

of an S-L programme entails important differences in the students' perceptions or experiences of the courses. These results indicate that those students who participated in S-L value their practice as more relevant to their learning than those students who participated in the classroom seminar model.

The differences for the subscale of *course assessment* indicate a more positive affective impact, which has been considered a fundamental mediator of human subjectivity and development (Esteban and Ratner, 2010; Portes and González Rey, 2013; Gerstenblatt, 2014). Therefore, the students' acknowledgment that it has a more affective impact on them than usual could be a first indicator that we are looking at an authentic learning process.

In the dependent variable of *personal learning*, we also found that the S-L experience had a higher impact on the students than the classroom seminar model in two of the three different S-L groups. More research would be needed to understand the non-significant differences between SL1415A and CLASS1415A, but these results show a higher degree of agreement with the subscale for S-L students, which indicates that they consider the experience to have entailed relevant personal changes for them. This is coherent with studies that assert that personal impact, related with self-knowledge, commitment and attitudinal change, is a fundamental element of S-L (García García and Benítez, 2014; García García and Cotrina, 2015). This personal learning or identity change is related to the contextual border crossing in S-L (Kiely, 2005; Naudè, 2015) and the boundary experience, where students need to reconstruct their view of themselves and the world in a new reality that was until then unknown to them (Baxter-Magolda, 2012; Yep, 2014).

Moreover, the differences in the subscale of *behavioural learning* suggest to us that students that did S-L activities considered that they had achieved higher level professional skills than those that did seminar-based practice. This can be understood as a product of a transition from a boundary practice to a more central practice in the Community of Practice (Wenger, 1998). In the S-L context, appropriation of the practice and objectives of the Community of Practice is necessary in order to become a competent member of the group (McMillan, 2011; Wilson, Bradbury and McGlasson, 2015). High scores on this subscale are related with these transitions inside the community. Furthermore, the perception of self-competence fosters the students' potential projection of their future selves, both as professionals and active social agents (Boylan and Woolsey, 2015; Winterbottom et al., 2015).

What we have seen so far is coherent with the aforementioned studies and the theories of authentic learning (Simons, 2000; Meijers and Wardekker, 2003; Van Oers, 2007) and identity change (Mitton-Kükner, Nelson and Desrochers, 2010).

We have shown that the S-L experience had an affective impact and has been perceived by the students as relevant for personal change and the learning of professional skills. Nevertheless, if authentic learning represents holistic change in the individual, we cannot ignore the fact that we did not find significant difference between S-L and CLASS students with regard to *content learning*. This lack of differences leads us to question the students' perceptions of themselves as learners of a discipline. We must consider this in two ways. That is to say: S-L does not seem to be penalized in relation with the classroom practice as a provider of content learning. Therefore, it seems to maintain the same levels of satisfaction with the content area, without improvement or deterioration, while it clearly incorporates greater satisfaction both in terms of overall evaluations of the experience and the relative perception of personal and procedural learning. This entails the efficacy of S-L, which is coherent with the predictions described in previous studies (Astin and Sax 1998; Eyler and Giles 1999; Ammon, Furco, Chi and Middaugh, 2002; Whitley, 2014). But, on the other hand, these results could also be showing a disconnection between the university environment and the practice environment, thereby questioning the authentic learning process as holistic change (Taylor, 2014). The students would be learning different professional skills in the field, and discovering a real world that affects their identity paths, but not connecting these changes to what happens in their academic studies. To find the answers, we will need to conduct a qualitative study in order to pay detailed attention to the process and mediators of learning, discerning exactly what and how they learn.

Implications and limitations

The present study explores the students' perceptions in four dimensions of their learning experiences at the same faculty but with different practice models. Through this exploration we have been able to look in greater depth at how learning experience in S-L is different from more traditional educational strategies.

This study is limited in the configuration of the sample, related to how participants were recruited. The natural groups from which we collected the data entailed variations in group numbers, which may be a handicap since this meant we could not isolate variables for comparison. Also, the variety of the subjects linked to the S-L project may cause effects that we were unable to detect. Furthermore, this methodology only allowed us to make a comparison within groups, which was our goal at the time. We consider a qualitative approach to be required in order to construct further understanding of the topic.

Despite these restrictions, the results show some relevant differences between S-L and other models of practice from the perspective of students. This has direct implications both for practice and theoretical work.

In the practice of education, these results extend on the literature by showing possibly sceptical educators that S-L has important value added with regard to learning professional skills and personal and interpersonal understanding without detriment to the dimension of learning the course content. We hope this will encourage more educators to adopt this methodology, without fearing a drop in the quality of their students' content learning.

Likewise, having established the "value added" of S-L: higher satisfaction, better perception of personal change and skills acquisition, we now know that we are not working with an illusion. Our results show clear differences in learning results between S-L and classical pedagogies, and also support the need for more research into these theoretical terms of identity change and authentic learning.

We have found indicators that this S-L programme contributes to the construction of authentic learning, and hence, to changes in the students' identity, i.e. the relation with the object of knowledge, social commitment and their self-concept as agents of change. But we are still unable to describe how this happens, or even to explain whether the lack of differences between S-L and CLASS practice on the content learning scale could entail a questioning of the authentic learning process.

We consider this to be both a limitation of the present study and an implication for future research, since this research design is insufficient to trace the learning and development process and thereby tell us the answers. We therefore intend to perform further qualitative research to trace the process of authentic learning in our S-L activities, focusing not only on student learning outcomes but also on the very interaction between individual and social development (Taylor, 2014; McMillan et al., 2016). We encourage other researchers to share this objective, to help to construct critical reflexion and in-depth knowledge of this valuable practice and learning process.

Fecha de recepción del original: 3 de mayo 2018
Fecha de aceptación de la versión definitiva: 7 de agosto 2018

References

Ammon, M. S., Furco, A., Chi, B. and Middaugh, E. (2002). *Service-Learning in California: A Profile of the Calserve Service-Learning Partnerships (1997-2000): Executive Summary*. Berkeley: University of California.

Aramburuzabala, P. (2015). Aprendizaje-servicio: Una herramienta para educar desde y para la justicia social. *Revista Internacional de Educación para la Justicia Social*, *2*(2).

Astin, A. W. and Sax, L. J. (1998). How undergraduates are affected by service participation. *Service Participation*, *39*(3), 251-263.

Blankson, A. N., Rochester, S. E. and Watkins, A. F. (2015). Service-Learning and Civic Responsibility in a Sample of African American College Students. *Journal of College Student Development*, *56*(7), 723-734.

Blázquez Muñoz, A. and Martínez-Lozano, V. (2012). La residencia universitaria Flora Tristán: un ejemplo de formación humana y de compromiso con la sociedad. The Flora Tristán Residence Hall: an Example of Humane Education and Commitment to Society. *Revista de Educación*, 358, 618-630.

Bringle, R. G. and Hatcher, J. A. (1995). A service-learning curriculum for faculty. *Michigan Journal of Community Service Learning*, *2*, 112-122.

Campus Compact (2014). *Campus Compact membership survey 2014: Three decades of institutionalizing change*. Boston: University of Massachusetts.

Deeley, S. J. (2016). *El Aprendizaje-Servicio en educación superior: Teoría, práctica y perspectiva crítica*. Madrid: Narcea.

Dewey, J. (1936). *Education and the social order*. New York: League for Industrial Democracy.

Engeström, Y. (2001). Expansive learning at work: Toward an activity theoretical reconceptualization. *Journal of Education and Work*, *14*(1), 133-156.

Eyler, J. y Giles Jr, D. E. (1999). *Where's the Learning in Service-Learning? Jossey-Bass Higher and Adult Education Series*. San Francisco: Jossey-Bass.

Folgueiras Bertomeu, P., Luna González, E. and Puig, G. (2013). Aprendizaje y servicio: estudio del grado de satisfacción de estudiantes universitarios. *Revista de Educación*, 362, 159-185.

García García, M. and Benítez R. (2014). Comprometiéndonos con "nuestra escuela": un proyecto de Aprendizaje-Servicio para una formación del profesorado inclusiva. *Revista de Educación Inclusiva*, 7(2).

García García, M. and Cotrina, M. J. (2015). El aprendizaje y servicio en la formación inicial del profesorado: de las prácticas educativas críticas a la institucionalización curricular. *Profesorado. Revista de Currículum y Formación de Profesorado*, *19*(1), 8-25.

Gerstenblatt, P. (2014). Blogs as a Representation of Student Experiences in a Service Learning Course. *Metropolitan Universities*, *25*(3), 111-129.

Gribble, N., Dender, A., Lawrence, E., Manning, K. and Falkmer, T. (2014). International WIL Placements: Their Influence on Student Professional De-

velopment, Personal Growth and Cultural Competence. *Asia-Pacific Journal of Cooperative Education*, *15*(2), 107-117.

Haddix, M. (2015). Preparing community-engaged teachers. *Theory Into Practice*, *54*(1), 63-70.

Kiely, R. (2005). A transformative learning model for service-learning: A longitudinal case study. *Michigan Journal of Community Service Learning*, *12*(1).

Kilgo, C. A. (2015). The estimated effects of service learning on students' intercultural effectiveness. *Journal of College Student Development*, *56*(8), 867-871.

Knapp, T., Fisher, B. and Levesque-Bristol, C. (2010). Service-learning's impact on college students' commitment to future civic engagement, self-efficacy, and social empowerment. *Journal of Community Practice*, *18*(2-3), 233-251.

Kolb, D. (1984). *Experiential Learning as the Science of Learning and Development*. Englewood Cliffs: Prentice Hall.

Lalueza, J. L., Sànchez-Busqués, S. and Padrós, M. (2016). Creando vínculos entre Universidad y Comunidad: el proyecto Shere Rom, una experiencia de aprendizaje servicio en la Facultad de Psicología de la Universitat Autònoma de Barcelona. *RIDAS. Revista Iberoamericana de Aprendizaje Servicio*, (2), 33-69.

Macías Gómez-Estern, B., Martínez-Lozano, V. and Vásquez, O. A. (2014). "Real Learning" in Service Learning: Lessons from La Clase Mágica in the US and Spain. *IJREE–International Journal for Research on Extended Education*, *2*(2).

Marco-Macarro, M., Martínez-Lozano, V. and Macías-Gómez-Estern, B. (2016). El Aprendizaje-Servicio en Educación Superior como escenario de aprendizaje y de construcción identitaria. *Papeles de Trabajo sobre Cultura, Educación y Desarrollo Humano*, *12*(3), 45-51.

McMillan, J. (2011). What happens when the university meets the community? Service learning, boundary work and boundary workers. *Teaching in Higher Education*, *16*(5), 553-564.

McMillan, J., Goodman, S. and Schmid, B. (2016). Illuminating "Transaction Spaces" in Higher Education: University-Community Partnerships and Brokering as "Boundary Work". *Journal of Higher Education Outreach and Engagement*, *20*(3), 8-31.

Meijers, F and Wardekker, W. (2003). Career learning in a changing world: the role of emotions. *International journal for the advancement of counseling*, *24*, 149-167.

Mitton-Kükner, J., Nelson, C. and Desrochers, C. (2010). Narrative inquiry in service learning contexts: Possibilities for learning about diversity in teacher education. *Teaching and Teacher Education*, *26*(5), 1162-1169.

Mpofu, E. (2007). Service-learning effects on the academic learning of rehabilita-

tion services students. *Michigan Journal of Community Service Learning*, *14*(1), 46-52.

Myers-Lipton, S. J. (1996). Effect of Service-Learning on College Students' Attitudes towards International Understanding. *Journal of College Student Development*, *37*(6), 659-68.

Naudé, L. (2015). On (un) common ground: Transforming from dissonance to commitment in a service learning class. *Journal of College Student Development*, *56*(1), 84-102.

Nehari, M. and Bender, H. (1978). Meaningfulness of a learning experience: A measure for educational outcomes in higher education. *Higher Education*, 7(1), 1-11.

Padrós, M., Sánchez-Busqués, S.; Lalueza, J.L.; Crespo, I. and Lamas, M. (2014). El proyecto Shere Rom. Fundamentos de una comunidad de prácticas para la inclusión educativa de grupos culturales minoritarios y en riesgo de exclusión social. *Psicología, Conocimiento y Sociedad*, *4*(2), 138-162.

Polkinghorne, D. E. (1988). *Narrative Knowing and the Human Sciences*. Albany: State University of New York Press.

Portes, P. and González-Rey, F. (2013). El desarrollo de la identidad desde una perspectiva histórico-cultural. *Estudios de Psicología*, *34*(1), 19-25.

Power, A. and Bennett, D. (2015). Moments of becoming: experiences of embodied connection to place in arts-based service learning in Australia. *Asia-Pacific Journal of Teacher Education*, *43*(2), 156-168.

Puig Rovira, J. M., Gijón Casares, M., Martín García, X. and Rubio Serrano, L. (2011). Aprendizaje-servicio y Educación para la Ciudadanía. *Revista de Educación*, *Número Extraordinario*, 45-67.

Richards, K. A. R. and Levesque-Bristol, C. (2016). The influence of self-efficacy and self-regulated motivation on civic learning in service learning courses. *Journal of College Student Development*, *57*(7), 827-843.

Simons, P. R. J. (2000). Towards a constructivistic theory of self-directed learning. *Self-learning*, 1-12.

Strage, A. (2004). Long-term academic benefits of service-learning: When and where do they manifest themselves? *College Student Journal*, *38*(2), 257-262.

Sutherland, L. and Markauskaite, L. (2012). Examining the role of authenticity in supporting the development of professional identity: an example from teacher education. *Higher Education*, *64*(6), 747-766.

Taylor, A. (2014). Community service-learning and cultural-historical activity theory. *The Canadian Journal of Higher Education*, *44*(1), 95.

Taylor, A. (2017). Service-Learning Programs and the Knowledge Economy: Exploring the Tensions. *Vocations and Learning*, *10*(3), 253-273.

Taylor, K. B., Jones, S. R., Massey, R., Mickey, J., Reynolds, D. J. and Jackson, T. (2017). Examining developmental readiness in an international service-learning context. *Journal of College Student Development*, *58*(5), 685-703.

United Nations Environment Program (2013). *Greening Universities Toolkit*, *Sustainability in higher education*.

Van Oers, B. (2007). Helping young children to become literate: the relevance of narrative competence for developmental education. *European Early Childhood Education Research Journal*, *15*(3), 299-312.

Wenger, E. (1998). *Communities of practice: Learning, meaning and identity.* Cambridge: Cambridge University Press.

Whitley, M. A. (2014). A Draft Conceptual Framework of Relevant Theories to Inform Future Rigorous Research on Student Service-Learning Outcomes. *Michigan Journal of Community Service Learning*, *20*(2), 19-40.

Wilson, R. E., Bradbury, L. U. and McGlasson, M. A. (2015). Integrating service-learning pedagogy for preservice elementary teachers' science identity development. *Journal of Science Teacher Education*, *26*(3), 319-340.

Winterbottom, C., Lake, V. E., Ethridge, E. A., Kelly, L. and Stubblefield, J. L. (2015). Fostering social justice through service-learning in early childhood teacher education. *Revista Internacional de Educación para la Justicia Social*, *2*(2).

Wortham, S. (2006). *Learning identity: The joint emergence of social identification and academic learning*. Cambridge: Cambridge University Press.

Yep, K. S. (2014). Reimagining Diversity Work: Multigenerational Learning, Adult Immigrants, and Dialogical Community-Based Learning. *Metropolitan Universities*, *25*(3), 47-66.